IN THE CLAIMS

Please amend the claims as follows:

1. (original) A decoder comprising means for recovering a plurality of first spectral coefficients from a received signal, the first spectral coefficients comprising the products of first transform means; inverse transform means for transforming said first spectral coefficients into one or more time domain signal components; second transform means for transforming said one or more time domain signal components into a plurality of second spectral coefficients, wherein, the modulation of said second transform means is orthogonal to the modulation of said first transform means at corresponding modulation frequencies, the decoder further comprising means for processing one or more of said first spectral coefficients in conjunction with a respective second spectral coefficient.

2. (original) A decoder as claimed in Claim 1, wherein said recovering means comprises means for decoding and dequantizing a received data signal to recover first spectral coefficients, said first spectral coefficients comprising the products of a first frequency transform; wherein said inverse transform means comprises means for performing one or more inverse frequency transforms on

said first spectral coefficients to produce said time domain signal components, wherein second transform means comprises means for performing one or more second forward frequency transforms on said time domain signal components to produce said second spectral coefficients, and wherein said first forward frequency transform is orthogonal to said second forward frequency transform at corresponding modulation frequencies.

3. (original) A decoder as claimed in Claim 2, wherein said first spectral coefficients comprise the output of a critically sampled forward frequency transform, said critically sampled forward frequency transform employing a 50% overlap in data samples to be transformed.

4. (currently amended) A decoder as claimed in Claim 2~~ or 3~~, wherein one of said first forward frequency transform and said second forward frequency transform comprises the Modified Discrete Cosine Transform (MDCT), the other comprising the Modified Discrete Sine Transform (MDST).

5. (original) A decoder as claimed in Claim 4, wherein said first forward frequency transform comprises the Modified Discrete Cosine Transform (MDCT), said inverse frequency transform comprises the

inverse Modified Discrete Cosine Transform (IMDCT) and said second forward frequency transform comprises the Modified Discrete Sine Transform (MDST).

6. (currently amended) A decoder as claimed in ~~any of Claims 2 to 5~~claim 2, wherein one or more windowing and overlap-add operations are performed on said time domain signal components before said one or more second forward frequency transforms.

7. (original) A decoder as claimed in Claim 6, further including means for delaying said first spectral coefficients so that each first spectral coefficient is synchronised with the respective corresponding second spectral coefficient.

8. (currently amended) A decoder as claimed in ~~any of Claims 2 to 7~~claim 2, further including means for introducing aliasing into said first spectral coefficients to produce aliased first spectral coefficients, said one or more inverse frequency transforms being performed on said aliased first spectral coefficients.

9. (original) A decoder as claimed in Claim 8, further including means for performing aliasing reduction on said second spectral coefficients.

10. (original) A decoder as claimed in Claim 8, further including means for performing complex-valued aliasing reduction on said second spectral coefficients and their respective aliased first spectral coefficients, wherein said complex-valued aliasing reduction means comprises one or more anti-aliasing butterflies arranged to apply complex-valued weights to said aliased first and corresponding second frequency components.

11. (currently amended) A decoder as claimed in ~~any of Claims 2 to 10~~claim 2, wherein each first spectral coefficient and respective second spectral coefficient together comprise a complex-valued spectral coefficient, the decoder further including means for performing one or more complex-valued inverse frequency transforms on said complex-valued spectral coefficients to produce a plurality of data samples; means for applying one or more types of window functions to said data samples to produce a plurality of windowed data samples; and means for constructing an output signal from said windowed data samples.

12. (original) A decoder as claimed in Claim 11, wherein a respective set of complex-valued spectral coefficients are produced for each granule of first spectral coefficients recovered from said

received data signal, and wherein, in respect of at least a first type of window function, said complex-valued inverse frequency transform means is arranged to perform a single inverse frequency transform on all complex-valued spectral coefficients of a respective set.

13. (original) A decoder as claimed in Claim 11, wherein said output signal constructing means applies one or more overlap-add operations to said windowed data samples to produce said output signal.

14. (currently amended) A decoder as claimed in ~~any of Claims 11 to 13~~claim 11, wherein, in respect of at least said first type of window function, said window function application means is arranged to apply a single window function to all data samples produced in respect of a respective set of complex-valued spectral coefficients.

15. (currently amended) A decoder as claimed in ~~any of Claims 11 to 14~~claim 11, wherein said at least first type of window function includes length adjusted versions of MPEG-1 layer III type 0, type 1 and type 3 window functions.

16. (currently amended) A decoder as claimed in ~~any of Claims 11 to 15~~claim 11, wherein in respect of at least a second type of window function, said complex-valued inverse frequency transform means is arranged to perform a respective inverse frequency transform on a respective sub-set of complex-valued spectral coefficients, all of the complex-valued frequency components of a set belonging to one or other of said sub-sets.

17. (original) A decoder as claimed in Claim 16, wherein, in respect of at least said second type of window function, said window function application means is arranged to apply a single window function to all data samples produced in respect of a respective sub-set of complex-valued spectral coefficients.

18. (currently amended) A decoder as claimed in Claim 16~~ or 17~~, wherein said at least second type of window function includes a length adjusted version of the MPEG-1 layer III type 2 window function, and the complex-valued spectral coefficients of each set belong to one or other of three respective sub-sets.

19. (original) A decoder as claimed in Claim 11, wherein a respective set of complex-valued spectral coefficients are associated with a respective frequency sub-band and wherein, in

respect of at least a first type of window function, said complex-valued inverse frequency transform means is arranged to perform a respective inverse frequency transform on each set of complex-valued spectral coefficients and, in respect of at least a second type of window function, said complex-valued inverse frequency transform means is arranged to perform a respective inverse frequency transform on a respective sub-set of complex-valued spectral coefficients, all of the complex-valued frequency components of a set belonging to one or other of said sub-sets.

20. (original) A decoder as claimed in Claim 19, wherein said output signal constructing means comprises a complex exponential modulated synthesis filterbank, of which the real-valued output components comprise said output signal.

21. (currently amended) A decoder as claimed in ~~any of Claims 11 to 20~~claim 11, wherein said complex-valued inverse frequency transform comprises an odd-frequency modulated inverse Discrete Fourier Transform (DFT).

22. (original) A decoder as claimed in Claim 21, wherein said complex-valued inverse frequency transform comprises an odd-time odd-frequency modulated inverse Discrete Fourier Transform (O^2DFT).

23. (currently amended) A decoder as claimed in ~~any of Claims 11 to 22~~claim 11, further including means for adjusting the phase of the complex-valued spectral coefficients in accordance with equations [5] and [6] of the accompanying description.

24. (original) A decoder as claimed in Claim 1, wherein said inverse transform means comprises a synthesis sub-band filterbank and second forward transform means comprises an analysis sub-band filterbank.

25. (original) A decoder as claimed in Claim 24, wherein said first transform means comprises an analysis filterbank, one of said first and second forward transform means being cosine modulated, the other being sine modulated.

26. (currently amended) A decoder as claimed in Claim 24~~ or 25~~, further including a complex exponential modulated synthesis filterbank arranged to produce a time domain output signal from said first and second spectral coefficients.

27. (original) A method of decoding a data signal, the method comprising recovering a plurality of first spectral coefficients

from a received signal, the first spectral coefficients comprising the products of first transform means; transforming, by inverse transform means, said first spectral coefficients into one or more time domain signal components; transforming, by second transform means, said one or more time domain signal components into a plurality of second spectral coefficients, wherein the modulation of said second transform means is orthogonal to the modulation of said first transform means at corresponding modulation frequencies, the method further comprising processing one or more of said first spectral coefficients in conjunction with a respective second spectral coefficient.